AMENDMENTS

Please amend the above-referenced U.S. Patent Application as follows:

IN THE CLAIMS:

Please cancel claims 25-38 without prejudice.

Please add the following new claims:

67. (New) A method of screening a xenobiotic for susceptibility to biliary excretion, the method comprising the steps of:

(a) providing a culture of hepatocytes, the culture of hepatocytes comprising at least one bile canaliculus;

(b) exposing a xenobiotic to the culture; and

(c) determining an amount of xenobiotic in the at least one bile canaliculus to thereby screen the xenobiotic for susceptibility to biliary excretion.

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68. (New) The method of claim 67, wherein the hepatocytes are isolated from a source selected from the group consisting of rat, human, monkey, ape, cat, dog, pig, hog, cattle, oxen, sheep, horses, turkeys, chickens, ducks and geese.

69. (New) The method of claim 67, wherein the culture of hepatocytes further comprises a long-term culture of hepatocytes.

70. (New) The method of claim 67, wherein the culture of hepatocytes further comprises a canalicular network.

71. (New) The method of claim 67, wherein the culture of hepatocytes is further characterized as having a configuration selected from the group consisting of clusters of hepatocytes, aggregates of hepatocytes, at least one layer of hepatocytes, and combinations thereof.

72. (New) The method of claim 71, wherein the hepatocytes are embedded in a matrix.

73. (New) The method of claim 71, wherein the culture of hepatocytes further comprises a sandwich culture of hepatocytes, the sandwich culture comprising at least one layer of hepatocytes and at least one bile canaliculus with the at least one layer of hepatocytes.

74. (New) The method of claim 73, wherein the sandwich culture of hepatocytes further comprises a long-term sandwich culture of hepatocytes.

75. (New) The method of claim 73, wherein the at least one layer of hepatocytes is sandwiched between two layers of matrix.

76. (New) The method of claim 75, wherein the matrix is selected from the group consisting of a biological matrix medium, a synthetic matrix medium, and combinations thereof.

77. (New) The method of claim 76, wherein the biological matrix medium is selected from the group consisting of collagens, laminins, basement membrane-derived complexes, derivatives thereof and combinations thereof.

78. (New) The method of claim 67, wherein the amount of the xenobiotic in the at least one bile canaliculus is determined by calculating a biliary clearance value for the culture.

79. (New) A method of screening a plurality of xenobiotics simultaneously for susceptibility to biliary excretion, the method comprising:

(a) providing a plurality of cultures of hepatocytes, wherein each culture of hepatocytes comprises at least one bile canaliculus;

(b) exposing a different xenobiotic within the plurality of xenobiotics to each culture within the plurality of cultures; and

(c) determining an amount of xenobiotic in the at least one bile canaliculus within each culture to thereby screen the xenobiotic for susceptibility to biliary excretion.

80. (New) The method of claim 79, wherein the hepatocytes are isolated from a source selected from the group consisting of rat, human, monkey, ape, cat, dog, pig, hog, cattle, oxen, sheep, horses, turkeys, chickens, ducks and geese.

81. (New) The method of claim 79, wherein the cultures of hepatocytes further comprise long-term cultures of hepatocytes.

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82. (New) The method of claim 79, wherein the cultures of hepatocytes each further comprise a canalicular network.

83. (New) The method of claim 79, wherein the cultures of hepatocytes are further characterized as having a configuration selected from the group consisting of clusters of hepatocytes, aggregates of hepatocytes, at least one layer of hepatocytes, and combinations thereof.

84. (New) The method of claim 83, wherein the hepatocytes are embedded in a matrix.

85. (New) The method of claim 83, wherein each culture of hepatocytes further comprises a sandwich culture of hepatocytes, the sandwich culture comprising at least one layer of hepatocytes and at least one bile canaliculus with the at least one layer of hepatocytes.

86. (New) The method of claim 85, wherein each sandwich culture of hepatocytes further comprises a long-term sandwich culture of hepatocytes.

87. (New) The method of claim 85, wherein the at least one layer of hepatocytes is sandwiched between two layers of matrix.

88. (New) The method of claim 87, wherein the matrix is selected from the group consisting of a biological matrix medium, a synthetic matrix medium, and combinations thereof.

89. (New) The method of claim 88, wherein the biological matrix medium is selected from the group consisting of collagens, laminins, basement membrane-derived complexes, derivatives thereof and combinations thereof.

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90. (New) The method of claim 79, wherein the amount of the xenobiotic in the at least one bile canaliculus is determined by calculating a biliary clearance value for the culture.

91. (New) A method of screening a xenobiotic *in vitro* for susceptibility to *in vivo* biliary excretion by an endogenous sinusoidal or canalicular transport system, or by both sinusoidal and canalicular transport systems, the method comprising the steps of:

(a) providing a culture of hepatocytes, the culture comprising at least one bile canaliculus;

(b) simultaneously exposing to the culture provided in step (a), for a time sufficient to allow uptake, both of a xenobiotic and a pre-selected amount of a labeled substrate for an endogenous sinusoidal or

canalicular transport system, or for both sinusoidal and canalicular transport systems;

(c) washing the culture; and

(d) detecting an amount of labeled substrate present in the at least one bile canaliculus in the culture to evaluate uptake and excretion competition between the xenobiotic and the labeled substrate, the presence or the absence of a reduced amount of the labeled substrate as compared to the pre-selected amount of labeled substrate indicating the susceptibility of the xenobiotic to biliary excretion by an endogenous sinusoidal or canalicular transport system, or by both sinusoidal and canalicular transport systems.

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92. (New) The method of claim 91, wherein the hepatocytes are isolated from a source selected from the group consisting of rat, human, monkey, ape, cat, dog, pig, hog, cattle, oxen, sheep, horses, turkeys, chickens, ducks and geese.

93. (New) The method of claim 91, wherein the culture of hepatocytes further comprises a long-term culture of hepatocytes.

94. (New) The method of claim 91, wherein the culture of hepatocytes further comprises a canalicular network.

95. (New) The method of claim 91, wherein the culture of hepatocytes is further characterized as having a configuration selected from the group consisting of clusters of hepatocytes, aggregates of hepatocytes, at least one layer of hepatocytes, and combinations thereof.

96. (New) The method of claim 95, wherein the hepatocytes are embedded in a matrix.

97. (New) The method of claim 95, wherein the culture of hepatocytes further comprises a sandwich culture of hepatocytes, the sandwich culture comprising at least one layer of hepatocytes and at least one bile canaliculus with the at least one layer of hepatocytes.

98. (New) The method of claim 97, wherein the sandwich culture of hepatocytes further comprises a long-term sandwich culture of hepatocytes.

99. (New) The method of claim 96, wherein the at least one layer of hepatocytes is sandwiched between two layers of matrix.

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100. (New) The method of claim 99, wherein the matrix is selected from the group consisting of a biological matrix medium, a synthetic matrix medium, and combinations thereof.

101. (New) The method of claim 100, wherein the biological matrix medium is selected from the group consisting of collagens, laminins, basement membrane-derived complexes, derivatives thereof and combinations thereof.

102. (New) The method of claim 91, wherein the labeled substrate comprises a compound selected from the group consisting of a fluorogenic compound, a fluorescent compound, a chemiluminescent compound, a colorimetric compound, a radiolabeled compound and combinations thereof.

103. (New) The method of claim 91, wherein steps (a) through (d) are carried out in at least one well of a multi-well plate.

104. (New) The method of claim 91, further comprising screening a plurality of xenobiotics simultaneously for susceptibility to biliary excretion.

105. (New) A method of screening a xenobiotic for susceptibility to biliary excretion, the method comprising the steps of: p.11, line 17

(a) establishing first and second cultures of hepatocytes, each culture comprising at least one bile canaliculus, the first culture having intact bile canaliculi and the second culture having disrupted bile canaliculi; p.18, line 2

(b) exposing a xenobiotic to the first culture and to the second culture for a time sufficient to allow uptake of the xenobiotic;

(c) washing and then lysing the first and second cultures;

(d) measuring an amount of xenobiotic present in a lysate obtained from each culture in step (c); and

(e) calculating a biliary clearance value derived from the first culture having intact bile canaliculi and the second culture having disrupted bile canaliculi using the amount of xenobiotic in each culture lysate measured in step (d) to thereby screen the xenobiotic for susceptibility to biliary excretion.

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106. (New) The method of claim 105, wherein the hepatocytes are isolated from a source selected from the group consisting of rat, human, monkey, ape, cat, dog, pig, hog, cattle, oxen, sheep, horses, turkeys, chickens, ducks and geese.

107. (New) The method of claim 105, wherein the first and second cultures of hepatocytes each further comprise a long-term culture of hepatocytes.

108. (New) The method of claim 105, wherein the first and second cultures of hepatocytes further comprise a canalicular network.

109. (New) The method of claim 105, wherein the first and second cultures of hepatocytes are further characterized as having a configuration selected from the group consisting of clusters of hepatocytes, aggregates of hepatocytes, at least one layer of hepatocytes, and combinations thereof.

110. (New) The method of claim 105, wherein the hepatocytes are embedded in a matrix.

111. (New) The method of claim 105, wherein the first and second cultures of hepatocytes further comprise a sandwich culture of hepatocytes, the sandwich culture comprising at least one layer of hepatocytes and at least one bile canaliculus with the at least one layer of hepatocytes.

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112. (New) The method of claim 111, wherein the at least one layer of hepatocytes is sandwiched between two layers of matrix.

113. (New) The method of claim 111, wherein the first and second cultures of hepatocytes each further comprise a long-term culture of hepatocytes.

114. (New) The method of claim 110, wherein the matrix is selected from the group consisting of a biological matrix medium, a synthetic matrix medium, and combinations thereof.

115. (New) The method of claim 114, wherein the biological matrix medium is selected from the group consisting of collagens, laminins, basement membrane-derived complexes, derivatives thereof and combinations thereof.

116. (New) The method of claim 105, wherein steps (a) through (d) are carried out in at least one well of a multi-well plate.

117. (New) The method of claim 105, further comprising screening a plurality of xenobiotics simultaneously for susceptibility to biliary excretion.

118. (New) The method of claim 105, further comprising the step of differentiating between a xenobiotic that is not excreted in bile, a xenobiotic that is highly excreted in bile, and a xenobiotic that is readily and extensively excreted in bile.

119. (New) A method of screening a metabolite of a parent xenobiotic compound for susceptibility to biliary excretion, the method comprising the steps of:

(a) establishing a first set and second set of two cultures of hepatocytes, each culture comprising at least one bile canaliculus, a first culture within each set having intact bile canaliculi and a second culture within each set having disrupted bile canaliculi;

(b) exposing a parent xenobiotic compound to the first culture and to the second culture of each set for a time sufficient to allow uptake of the parent xenobiotic compound;

(c) inducing metabolic enzyme activity in the hepatocytes of the first set of cultures;

(d) washing and lysing the first and second cultures of each set;

(e) measuring an amount of parent xenobiotic compound present in a lysate obtained from each culture in step (d);

(f) measuring an amount of the metabolite of the parent xenobiotic compound present in a lysate obtained from each culture in step (d);

(g) calculating a biliary clearance value derived from the first culture having intact bile canaliculi and the second culture having disrupted bile canaliculi using the amount of parent xenobiotic compound in each culture lysate measured in step (e); and

(h) calculating a biliary clearance value derived from the first culture having intact bile canaliculi and the second culture having disrupted bile canaliculi using the amount of the metabolite of the candidate parent compound in each culture lysate measured in step (f) to thereby screen the metabolite of the parent xenobiotic compound for susceptibility to biliary excretion.

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120. (New) The method of claim 119, wherein the hepatocytes are isolated from a source selected from the group consisting of rat, human, monkey, ape, cat, dog, pig, hog, cattle, oxen, sheep, horses, turkeys, chickens, ducks and geese.

121. (New) The method of claim 119, wherein the first and second sets of cultures of hepatocytes each further comprise a long-term culture of hepatocytes.

122. (New) The method of claim 119, wherein the first and second sets of cultures of hepatocytes further comprise a canalicular network.

123. (New) The method of claim 119, wherein the cultures of hepatocytes are further characterized as having a configuration selected from the group consisting of clusters of hepatocytes, aggregates of hepatocytes, at least one layer of hepatocytes, and combinations thereof.

124. (New) The method of claim 123, wherein the hepatocytes are embedded in a matrix.

125. (New) The method of claim 123, wherein each culture of hepatocytes further comprises a sandwich culture of hepatocytes, the sandwich culture comprising at least one layer of hepatocytes and at least one bile canaliculus with the at least one layer of hepatocytes.

126. (New) The method of claim 125, wherein the at least one layer of hepatocytes is sandwiched between two layers of matrix.

127. (New) The method of claim 125, wherein the cultures of hepatocytes each further comprise a long-term culture of hepatocytes.

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128. (New) The method of claim 124, wherein the matrix is selected from the group consisting of a biological matrix medium, a synthetic matrix medium, and combinations thereof.

129. (New) The method of claim 128, wherein the biological matrix medium is selected from the group consisting of collagens, laminins, basement membrane-derived complexes, derivatives thereof and combinations thereof.

130. (New) The method of claim 119, wherein steps (a) through (f) are carried out in at least one well of a multi-well plate.

131. (New) The method of claim 119, further comprising screening a plurality of parent xenobiotic compounds and a plurality of metabolites of the parent xenobiotic compounds simultaneously for susceptibility to biliary excretion.

132. (New) The method of claim 119, further comprising differentiating between a xenobiotic that is not excreted in bile, a xenobiotic that is highly excreted in bile, and a xenobiotic that is rapidly and extensively excreted in bile.

133. (New) The method of claim 119, wherein the induced metabolic enzyme activity comprises Phase I, Phase II, transport metabolic enzyme activity, or combinations thereof.

134. (New) A method of screening an endobiotic for susceptibility to biliary excretion, the method comprising the steps of:

(a) providing a culture of hepatocytes, the culture of hepatocytes comprising at least one bile canaliculus;

(b) exposing an endobiotic to the culture; and

(c) determining an amount of endobiotic in the at least one bile canaliculus to thereby screen the endobiotic for susceptibility to biliary excretion.

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135. (New) The method of claim 134, wherein the hepatocytes are isolated from a source selected from the group consisting of rat, human, monkey, ape, cat, dog, pig, hog, cattle, oxen, sheep, horses, turkeys, chickens, ducks and geese.

136. (New) The method of claim 134, wherein the culture of hepatocytes further comprises a long-term culture of hepatocytes.

137. (New) The method of claim 134, wherein the culture of hepatocytes further comprises a canalicular network.

138. (New) The method of claim 134, wherein the culture of hepatocytes is further characterized as having a configuration selected from the group consisting of

clusters of hepatocytes, aggregates of hepatocytes, at least one layer of hepatocytes, and combinations thereof.

139. (New) The method of claim 138, wherein the hepatocytes are embedded in a matrix.

140. (New) The method of claim 138, wherein the culture of hepatocytes further comprises a sandwich culture of hepatocytes, the sandwich culture comprising at least one layer of hepatocytes and at least one bile canaliculus with the at least one layer of hepatocytes.

141. (New) The method of claim 138, wherein the sandwich culture of hepatocytes further comprises a long-term sandwich culture of hepatocytes.

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142. (New) The method of claim 141, wherein the at least one layer of hepatocytes is sandwiched between two layers of matrix.

143. (New) The method of claim 139, wherein the matrix is selected from the group consisting of a biological matrix medium, a synthetic matrix medium, and combinations thereof.

144. (New) The method of claim 143, wherein the biological matrix medium is selected from the group consisting of collagens, laminins, basement membrane-derived complexes, derivatives thereof and combinations thereof.

145. (New) The method of claim 134, wherein the amount of the endobiotic in the at least one bile canaliculus is determined by calculating a biliary clearance value for the culture.

146. (New) A method of screening a plurality of endobiotics simultaneously for susceptibility to biliary excretion, the method comprising:

(a) providing a plurality of cultures of hepatocytes, wherein each culture of hepatocytes comprises at least one bile canaliculus;

(b) exposing a different endobiotic within the plurality of endobiotics to each culture within the plurality of cultures; and

(c) determining an amount of endobiotic in the at least one bile canaliculus within each culture to thereby screen the endobiotic for susceptibility to biliary excretion.

147. (New) The method of claim 146, wherein the hepatocytes are isolated from a source selected from the group consisting of rat, human, monkey, ape, cat, dog, pig, hog, cattle, oxen, sheep, horses, turkeys, chickens, ducks and geese.

148. (New) The method of claim 146, wherein the cultures of hepatocytes further comprise long-term cultures of hepatocytes.

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149. (New) The method of claim 146, wherein the cultures of hepatocytes each further comprise a canalicular network.

150. (New) The method of claim 146, wherein the cultures of hepatocytes are further characterized as having a configuration selected from the group consisting of clusters of hepatocytes, aggregates of hepatocytes, at least one layer of hepatocytes, and combinations thereof.

151. (New) The method of claim 150, wherein the hepatocytes are embedded in a matrix.

152. (New) The method of claim 150, wherein each culture of hepatocytes further comprises a sandwich culture of hepatocytes, the sandwich culture

comprising at least one layer of hepatocytes and at least one bile canaliculus with the at least one layer of hepatocytes.

153. (New) The method of claim 150, wherein each sandwich culture of hepatocytes further comprises a long-term sandwich culture of hepatocytes.

154. (New) The method of claim 151, wherein the at least one layer of hepatocytes is sandwiched between two layers of matrix.

155. (New) The method of claim 154, wherein the matrix is selected from the group consisting of a biological matrix medium, a synthetic matrix medium, and combinations thereof.

156. (New) The method of claim 155, wherein the biological matrix medium is selected from the group consisting of collagens, laminins, basement membrane-derived complexes, derivatives thereof and combinations thereof.

157. (New) The method of claim 146, wherein the amount of the endobiotic in the at least one bile canaliculus is determined by calculating a biliary clearance value for the culture.

158. (New) A method of screening an endobiotic *in vitro* for susceptibility to *in vivo* biliary excretion by an endogenous sinusoidal or canalicular transport system, or by both sinusoidal and canalicular transport systems, the method comprising the steps of:

(a) providing a culture of hepatocytes, the culture comprising at least one bile canaliculus;

(b) simultaneously exposing to the culture provided in step (a), for a time sufficient to allow uptake, both of an endobiotic and a pre-selected

amount of a labeled substrate for an endogenous sinusoidal or canalicular transport system, or for both sinusoidal and canalicular transport systems;

(c) washing the culture; and

(d) detecting an amount of labeled substrate present in the at least one bile canaliculus in the culture to evaluate uptake and excretion competition between the endobiotic and the labeled substrate, the presence or the absence of a reduced amount of the labeled substrate as compared to the pre-selected amount of labeled substrate indicating the susceptibility of the endobiotic to biliary excretion by an endogenous sinusoidal or canalicular transport system, or by both sinusoidal and canalicular transport systems.

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159. (New) The method of claim 158, wherein the hepatocytes are isolated from a source selected from the group consisting of rat, human, monkey, ape, cat, dog, pig, hog, cattle, oxen, sheep, horses, turkeys, chickens, ducks and geese.

160. (New) The method of claim 158, wherein the culture of hepatocytes further comprises a long-term culture of hepatocytes.

161. (New) The method of claim 158, wherein the culture of hepatocytes further comprises a canalicular network.

162. (New) The method of claim 158, wherein the culture of hepatocytes is further characterized as having a configuration selected from the group consisting of clusters of hepatocytes, aggregates of hepatocytes, at least one layer of hepatocytes, and combinations thereof.

163. (New) The method of claim 162, wherein the hepatocytes are embedded in a matrix.

164. (New) The method of claim 162, wherein the culture of hepatocytes further comprises a sandwich culture of hepatocytes, the sandwich culture comprising at least one layer of hepatocytes and at least one bile canaliculus with the at least one layer of hepatocytes.

165. (New) The method of claim 162, wherein the sandwich culture of hepatocytes further comprises a long-term sandwich culture of hepatocytes.

166. (New) The method of claim 163, wherein the at least one layer of hepatocytes is sandwiched between two layers of matrix.

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167. (New) The method of claim 166, wherein the matrix is selected from the group consisting of a biological matrix medium, a synthetic matrix medium, and combinations thereof.

168. (New) The method of claim 167, wherein the biological matrix medium is selected from the group consisting of collagens, laminins, basement membrane-derived complexes, derivatives thereof and combinations thereof.

169. (New) The method of claim 158, wherein the labeled substrate comprises a compound selected from the group consisting of a fluorogenic compound, a fluorescent compound, a chemiluminescent compound, a colorimetric compound, a radiolabeled compound and combinations thereof.

170. (New) The method of claim 158, wherein steps (a) through (d) are carried out in at least one well of a multi-well plate.

171. (New) The method of claim 158, further comprising screening a plurality of endobiotics simultaneously for susceptibility to biliary excretion.

172. (New) A method of screening an endobiotic for susceptibility to biliary excretion, the method comprising the steps of:

(a) establishing first and second cultures of hepatocytes, each culture comprising at least one bile canaliculus, the first culture having intact bile canaliculi and the second culture having disrupted bile canaliculi;

(b) exposing an endobiotic to the first culture and to the second culture for a time sufficient to allow uptake of the endobiotic;

(c) washing and then lysing the first and second cultures;

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(d) measuring an amount of endobiotic present in a lysate obtained from each culture in step (c); and

(e) calculating a biliary clearance value derived from the first culture having intact bile canaliculi and the second culture having disrupted bile canaliculi using the amount of endobiotic in each culture lysate measured in step (d) to thereby screen the endobiotic for susceptibility to biliary excretion.

173. (New) The method of claim 172, wherein the hepatocytes are isolated from a source selected from the group consisting of rat, human, monkey, ape, cat, dog, pig, hog, cattle, oxen, sheep, horses, turkeys, chickens, ducks and geese.

174. (New) The method of claim 172, wherein the first and second cultures of hepatocytes each further comprise a long-term culture of hepatocytes.

175. (New) The method of claim 172, wherein the first and second cultures of hepatocytes further comprise a canalicular network.

176. (New) The method of claim 172, wherein the first and second cultures of hepatocytes are further characterized as having a configuration selected from the group consisting of clusters of hepatocytes, aggregates of hepatocytes, at least one layer of hepatocytes, and combinations thereof.

177. (New) The method of claim 172, wherein the hepatocytes are embedded in a matrix.

178. (New) The method of claim 172, wherein the first and second cultures of hepatocytes further comprise a sandwich culture of hepatocytes, the sandwich culture comprising at least one layer of hepatocytes and at least one bile canaliculus with the at least one layer of hepatocytes.

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179. (New) The method of claim 178, wherein the at least one layer of hepatocytes is sandwiched between two layers of matrix.

180. (New) The method of claim 178, wherein the first and second cultures of hepatocytes each further comprise a long-term culture of hepatocytes.

181. (New) The method of claim 180, wherein the matrix is selected from the group consisting of a biological matrix medium, a synthetic matrix medium, and combinations thereof.

182. (New) The method of claim 181, wherein the biological matrix medium is selected from the group consisting of collagens, laminins, basement membrane-derived complexes, derivatives thereof and combinations thereof.

183. (New) The method of claim 172, wherein steps (a) through (d) are carried out in at least one well of a multi-well plate.

184. (New) The method of claim 172, further comprising screening a plurality of endobiotics simultaneously for susceptibility to biliary excretion.

185. (New) The method of claim 172, further comprising the step of differentiating between an endobiotic that is not excreted in bile, an endobiotic that is highly excreted in bile, and an endobiotic that is readily and extensively excreted in bile.

186. (New) A method of screening a metabolite of a parent endobiotic compound for susceptibility to biliary excretion, the method comprising the steps of:

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(a) establishing a first set and second set of two cultures of hepatocytes, each culture comprising at least one bile canaliculus, a first culture within each set having intact bile canaliculi and a second culture within each set having disrupted bile canaliculi;

(b) exposing a parent endobiotic compound to the first culture and to the second culture of each set for a time sufficient to allow uptake of the parent endobiotic compound;

(c) inducing metabolic enzyme activity in the hepatocytes of the first set of cultures;

(d) washing and lysing the first and second cultures of each set;

(e) measuring an amount of parent endobiotic compound present in a lysate obtained from each culture in step (d);

(f) measuring an amount of the metabolite of the parent endobiotic compound present in a lysate obtained from each culture in step (d);

(g) calculating a biliary clearance value derived from the first culture having intact bile canaliculi and the second culture having disrupted bile canaliculi using the amount of parent endobiotic compound in each culture lysate measured in step (e);

(h) calculating a biliary clearance value derived from the first culture having intact bile canaliculi and the second culture having disrupted bile canaliculi using the amount of the metabolite of the candidate parent compound in each culture lysate measured in step (f) to thereby screen the metabolite of the parent endobiotic compound for susceptibility to biliary excretion.

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187. (New) The method of claim 186, wherein the hepatocytes are isolated from a source selected from the group consisting of rat, human, monkey, ape, cat, dog, pig, hog, cattle, oxen, sheep, horses, turkeys, chickens, ducks and geese.

188. (New) The method of claim 186, wherein the first and second sets of cultures of hepatocytes each further comprise a long-term culture of hepatocytes.

189. (New) The method of claim 186, wherein the first and second sets of cultures of hepatocytes further comprise a canalicular network.

190. (New) The method of claim 186, wherein the cultures of hepatocytes are further characterized as having a configuration selected from the group consisting of clusters of hepatocytes, aggregates of hepatocytes, at least one layer of hepatocytes, and combinations thereof.

191. (New) The method of claim 190, wherein the hepatocytes are embedded in a matrix.

192. (New) The method of claim 190, wherein each culture of hepatocytes further comprises a sandwich culture of hepatocytes, the sandwich culture comprising at least one layer of hepatocytes and at least one bile canaliculus with the at least one layer of hepatocytes.

193. (New) The method of claim 191, wherein the at least one layer of hepatocytes is sandwiched between two layers of matrix.

194. (New) The method of claim 191, wherein the cultures of hepatocytes each further comprise a long-term culture of hepatocytes.

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195. (New) The method of claim 191, wherein the matrix is selected from the group consisting of a biological matrix medium, a synthetic matrix medium, and combinations thereof.

196. (New) The method of claim 195, wherein the biological matrix medium is selected from the group consisting of collagens, laminins, basement membrane-derived complexes, derivatives thereof and combinations thereof.

197. (New) The method of claim 186, wherein steps (a) through (f) are carried out in at least one well of a multi-well plate.

198. (New) The method of claim 186, further comprising screening a plurality of parent endobiotic compounds and a plurality of metabolites of the parent endobiotic compounds simultaneously for susceptibility to biliary excretion.